

## REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the Office Action dated September 22, 2005, the Examiner rejected claims 1-9, under 35 U.S.C. §112, ¶2, as lacking antecedent basis; rejected claim 1, under 35 U.S.C. §102(b), as allegedly being anticipated by Takahashi '607 (EP No. 1041607 A1); and rejected claims 1-16, under 35 U.S.C. §102(a), as allegedly being as allegedly being anticipated by Ota '270 (U.S. Patent No. 6,549,270).

By this Amendment, Applicants have amended claim 1 to provide a clearer presentation of the claimed subject matter and to cure the lack of antecedent basis. Applicants submit that no new matter has been introduced. As such, claims 1-16 are currently presented for examination, of which claims 1, 10, and 11 are independent. Accordingly, Applicants request the immediate withdrawal of the §112, ¶2 rejection of claim 1.

Applicants respectfully traverse the prior art rejections, under 35 U.S.C. §102(a), (b) and §103(a), for the following reasons:

### I. Prior Art Rejections Under 35 U.S.C. §102(b), §103(a).

Prior to addressing the substance of the claim rejections, Applicants respectfully point out that the Official Action is *incomplete* as to all matters because the Examiner has not clearly identified a ground of rejection for *each* claim. Applicants submit that, pursuant to MPEP § 707.07(d), a plurality of claims should *never* be grouped together in a common rejection, unless that rejection is equally applicable to all claims in the group.

Section MPEP § 707.07(d) relates to the *completeness and clarity* of the Examiner's action and to the language to be used in rejecting claims. In particular, the first sentence of MPEP § 707.07(d) mandates that “where a claim is refused for any

reason relating to the merits thereof ... [its] ground of rejection [should be] *fully and clearly stated.*” (*Emphasis added*). Furthermore, MPEP § 707.07(g), which also relates to the completeness and clarity of the Examiner's action, mandates that “where a major technical rejection is proper, *it should be stated with a full development of reasons rather than by a mere conclusion coupled with some stereotyped expression.*” (*Emphasis added*).

The Examiner appears to have ignored the Office's own guidelines by providing no explanation or bases, whatsoever, for rejecting claims 2-16. Rather, the Examiner summarily rejected claim 1 and did not even remark on claims 2-16. Such lack of a full and clear ground of rejection for these claims places an unnecessary burden upon the Applicants and the Undersigned to “guess” what the Examiner is relying on to sustain the rejections.

To this end, Applicants cannot find any remote teachings or suggestions of the features recited by claims 2-16 in the cited references or in the art of record. As such, in the absence of any reasons provided by the Examiner for rejecting these claims, Applicants assume that these claims are allowable. A notice to that effect is earnestly solicited in the next communication from the Office.

Regarding the rejections to independent claim 1, as indicated above, independent claim 1 positively recites that the positioning system includes at least one position sensor that *directly measures* a relative position of at least the first optical element relative to the second optical element, wherein the positioning system maintains the first and second optical elements in a predetermined relative position. These features are amply supported by the embodiments described in the Specification. (*See, e.g., Specification, par. [0052] – [0055]*).

Unlike the present invention, there is nothing in the references of record that teach the combination of features recited in claim 1. In particular, the Takahashi ‘607 reference discloses the use of displacement sensor blocks **25A**, **25B** and corresponding displacement sensors **26A**, **26B** which are respectively attached to optical systems **10A**, **10B**. (*See, e.g., Takahashi ‘607: par. [0050]-[0051]*). Takahashi ‘607 further discloses

that the sensors **26A**, **26B** detect the individual displacements of the blocks **25A**, **25B** along six degrees of freedom and control section then calculates the amount of relative positional deviation between optical systems **10A**, **10B**. (See, e.g., Takahashi '607: par. [0052]-[0055]; [0056]).

With this said, Applicants submit that Takahashi '607 fails to teach or suggest the *direct measurement of the relative position* between the first optical element relative to the second optical element, as required by claim 1. Rather, Takahashi '607 merely teaches the individual displacement of two optical systems (not elements) and then indirectly calculates the deviation between the two systems.

Moreover, as best understood, none of the references of record, including Ota '270, are capable of curing the defects identified above regarding the Takahashi '607 reference. That is, much like Takahashi '607, Ota '270 merely teaches individually measuring the positions of the first mirror **M1**, the second mirror **M2**, the third mirror **M3**, and the fourth mirror **M4** with a point diffraction interferometer and then pre-adjusting the mirrors. (See, e.g., Ota '270: col. 15, lines 53-63). Ota '270 then provides that position information of position, inclination, or shape of the first mirror **M1**, the second mirror **M2**, the third mirror **M3**, and the fourth mirror **M4** constituting the projection optical system **PO**, is measured by the mirror monitor system **80** and, based on the obtained position information, if a position or inclination deviation occurs or if a deformation of the like occurs with respect to the initial condition, the control unit **MCS** corrects the first mirror **M1**, the second mirror **M2**, the third mirror **M3**, or the fourth mirror **M4** by changing with the correction mechanism (actuator) **CS**, the movement, attitude, shape or the like by a required dimension only, to thereby maintain the standard condition. (See, e.g., Ota '270: col. 16, lines 5-41).

Clearly, Ota '270 fails to teach or suggest the *direct measurement of the relative position* between the first optical element relative to the second optical element, as required by claim 1.

For at least these reasons, Applicants submit that none of the references of record teach the claimed combination of elements recited by amended claim 1.

Accordingly, claim 1 is patentable over these references. As such, Applicants respectfully request the immediate withdrawal of the rejection of claim 1, under 35 U.S.C. §102(a),(b). In addition, because claims 2-9 depend from claim 1, claims 2-9 are patentable at least by virtue of dependency as well as for their additional recitations.

In addition, because independent claims 10 and 11 recite similar patentable features to the features discussed above with respect to claim 1, claims 10 and 11 are patentable for at least the reasons identified with respect to claim 1. Also, because claims 12-16, depend from claim 11, claims 12-16 are patentable at least by virtue of dependency as well as for their additional recitations.

II. Conclusion.

All matters having been addressed and in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicants' Counsel remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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